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## A NEW CICADA FROM ARIZONA.

BY WM. T. DAVIS,

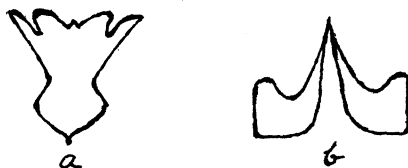
NEW BRIGHTON, STATEN ISLAND, N. Y.

Through the kindness of officials connected with the Biological Survey, U. S. Department of Agriculture, I recently had the opportunity of examining a small collection of Cicadas from various parts of the United States, and among them was the new species here described.

***Cicada cultriformis*** new species.

Type male, Blue River, a branch of the Gila River in Greenlee Co., Arizona, August 25, 1914. E. G. Holt, collector. (Collection U. S. Biological Survey.)

Resembles *Cicada marginata* Say in size, color and markings. Head black with an oblong greenish yellow spot each side between the eyes and a small spot of the same color on the front just above the transverse rugæ. Pronotum greenish yellow with a large, conspicuous black spot occupying the fore part of its central area (see Fig. a). The hind margin of the pronotum (collar) is entirely unicolorous as in *marginata*. The mesonotum is black, with a pruinose band each side at the base of the wings; the elevated x is greenish



yellow, and there are two conspicuous, irregularly formed (pipe-shaped) greenish yellow spots occupying its central portion (see Fig. b). The tergum is black, each side broadly margined with pruinose, and the segments have their posterior margins yellowish. There is also an indication of a dorsal line of pruinose spots on the tergum, which in the type have been nearly worn off. Beneath the head is blackish, the remainder of the insect being greenish yellow and more or less pruinose. The costal margin of the fore wing is entirely greenish yellow, darkened beyond the middle, and the w-mark is inconspicuous. Both fore and hind wings are greenish yellow at base, with the veins darkened beyond the middle.

In genitalia *Cicada cultriformis* is widely different from *Cicada marginata*. The dorsal piece is one third broader, as may be seen in the accompanying figures. The uncus is rather broad with the extremity truncate; it is more

narrow and rounded in *marginata*. But the greatest differences are in the lower pieces into which the uncus locks, which are 5 millimeters long in *cultriformis*, and when seen in profile are shaped like the blade of a pruning knife, hence the name. In *Cicada marginata* these same pieces are about 2.5 millimeters in length and not shaped at all like those of *cultriformis*.<sup>1</sup> The costal margin of the fore wing in *cultriformis* is evenly rounded and not so suddenly bent as in *marginata*, and the opercula, which are broadly rounded at the extremities in both species, are larger.

Allotype, female; bears the same date as the type. It is in the author's collection.

It has the same large, conspicuous black spot on the pronotum as the type, and the two central, large, pipe-shaped spots on the mesonotum are as well defined and of the same shape. The specimen was killed before it was mature and before its colors had completely developed.

#### MEASUREMENTS (IN MILLIMETERS).

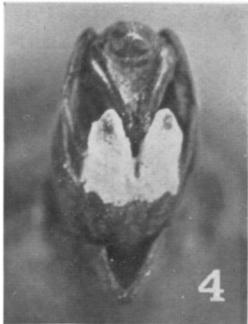
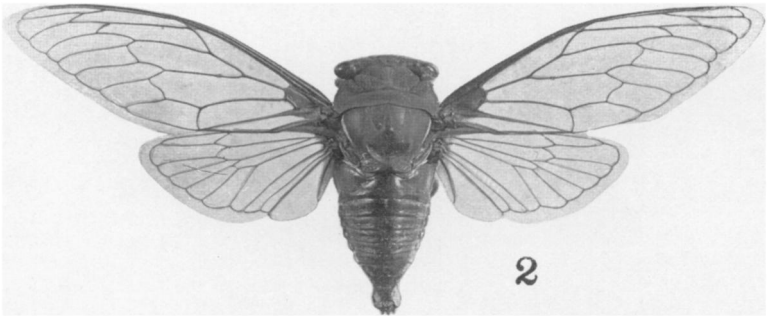
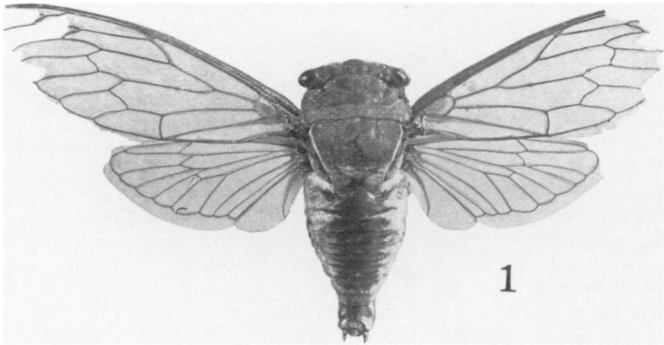
	Male Type.	Female Allotype.
Length of body .....	40	38
Width of head across eyes .....	16	17.5
Expanse of fore wings .....	110	125
Greatest width of fore wing .....	17	19
Greatest width of operculum .....	9	

The species here described is one of our largest cicadas, and while it may be readily distinguished from its nearest known allies by its peculiar genitalia, we think that the large, black spot on the pronotum will also prove of specific value.<sup>2</sup> The outer lines of the bowls of the pipes in the pipe-shaped spots on the mesonotum, run parallel in *Cicada cultriformis* both in the type and the allotype, which they do not do in Haldeman's figure of *Cicada resh* and in about two hundred specimens that we have identified as that species from Texas and Oklahoma. The markings of *Cicada resh* differ in other respects, and it is also a much smaller insect.

As the figure of *Cicada marginata* Say published in this JOURNAL for March, 1915 (Vol. XXIII, Pl. 2, fig. 1) was not quite satisfactory, we herewith present a second one. The insect from which it was taken

<sup>1</sup> By coloring them white Mr. H. H. Cleaves brought out the differences more clearly in the photographs from which the figures were made.

<sup>2</sup> Since the above description was written a female *Cicada cultriformis* from Verde Valley, Arizona, August 1, 1913, A. W. Murrill collector, (Collection U. S. Nat. Museum), and a male labeled "Arizona" in the Uhler collection, U. S. Nat. Museum, have been examined. In size and markings they closely resemble the type and allotype as described.



Cicadidæ.

came from Chetopa, Kansas (D. R. Beardslee) and expand 120 millimeters. This is supposed to be not a great many miles from the type locality. *Cicada marginata* has sometimes a line of pruinose spots on the tergum, but generally these spots are inconspicuous or have been entirely obliterated by age. In specimens of the same size the eyes are much further apart in *marginata* than they are in the allied *Cicada dealbata* described in this JOURNAL for September, 1915.

#### EXPLANATION OF PLATE XVIII.

- Fig. 1. *Cicada cultriformis* Davis, reduced.  
Fig. 2. *Cicada marginata* Say, reduced.  
Fig. 3. *Cicada cultriformis*; genitalia, enlarged.  
Fig. 4. *Cicada marginata*; genitalia, enlarged.
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## TWO NEW SPECIES OF ARRHENOPHAGUS WITH REMARKS.

BY A. A. GIRAULT,

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The genotype of this genus heretofore has been supposed cosmopolitan. It has been recorded from many parts of the earth, including Asia and Australia. But in Australia there are two distinct species, one described, which belong to *Arrhenophagoidea* a genus which differs from *Arrhenophagus* in bearing **5-jointed tarsi** only. All other specimens which I have seen from that region are the genotype of this second genus. Ceylonese and Japanese specimens of *Arrhenophagus* represent the two species below but North American specimens appear to be *chionaspidis*. The club is **solid** (in spite of all statements to the contrary).

### 1. *Arrhenophagus albitibiæ* new species.

Female.—Length 0.40 mm.

Like the genotype but all tibiæ and tarsi are white, the antennæ are yellowish white. The venation is pale at tip, not ending in a small dusky spot.

Described from four females on a slide in the U. S. N. M., labelled "*Arrhenophagus chionaspidis*. 1418. *Fiorina sapsema* Green. From male scales. Handy, Ceylon, Koebele."